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## STRATEGIC FRAMEWORK/CURRENT AND FUTURE CHALLENGES/THREATS

Published in 2001, the Army Modernization Plan described a strategic environment in which, "... if current trends continue, the United States could enjoy a period of relative strategic calm in which no single foreign power could threaten our vital interests with conventional military forces."

Within six months of the release of the 2001 edition, any prospect of that relative strategic calm dissolved. Today, the Army has deployed to Iraq and Afghanistan as many as 18 to 20 Brigade Combat Teams for longer than it fought in World War II. Counting transition teams, security forces, and others, the Army currently deploys nearly 35 brigades worth of Soldiers and equipment. The Active Component brigades are deploying at a rate of one year deployed for each year at home instead of the Army's deployment planning objective of one year deployed to two years training at home station under "surge conditions." The Reserve Component brigades plan to deploy at the rate of one year deployed for every five years at home.

More than a half-million Soldiers now are serving in over 80 countries world-wide. Virtually all the Army's operational brigades are either conducting combat operations, preparing to do so, or are positioned forward to deter conflict in critical regions. Some brigades are on their third combat tour. To date, over 700,000 Active and Reserve Soldiers have answered the "call to duty," supporting the Global War on Terror.

For several decades the Reserve Component has served as the Nation's strategic reserve. Today, it is an integral part of the Operational Force serving alongside the Active Component in Iraq, Afghanistan, and other key regions. Active Component units constitute 55 percent of the Army's structure and provide essential combat and support capabilities. The Army is incapable of generating and sustaining the forces required

to wage the Global War on Terror, respond to emerging challenges, and sustain the full range of U.S. global commitments without all its components – Active, National Guard, and Reserve – being able to deploy together. In accordance with the Total Force Policy, "The Army needs recurrent, assured, predictable access to source, mobilize, and deploy whole, cohesive Reserve units to conduct sustained Combat, Combat Support/Combat Service Support, and stability operations." The current shift from strategic reserve to Operational Force requires the assurance that all units in the Army are equipped and trained to the same level. Compliance provides the needed flexibility to respond with properly trained and equipped Soldiers, regardless of the component.

In the current Theater, increased usage and weight from extra armor are wearing out equipment at up to nine times the established peacetime rate. Army equipment is suffering due to battle loss and damage, increased operations, harsh climate, and terrain. In Operation Iraqi Freedom alone, crews are driving tanks in excess of 4,000 miles a year—five times more than the programmed annual usage rate of 800 miles. Helicopters experience usage rates roughly two to three times programmed rates. The truck fleet is experiencing some of the most pronounced problems of excessive wear, operating at five to six times programmed rates. Heavy armor kits and other force protection initiatives further decrement readiness.

Even as the Army continues to fight the current battle, it must transform and modernize the force, creating the strategic depth and breadth for readiness, both now and in the future. Iraq has proven to be a non-linear battlefield, where distinctions between combatant and noncombatant have blurred as have those between combat and stability operations. Simultaneous operations across the range of military operations, rather than

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sequential operations, will likely be the rule. Being ready to succeed in this environment requires Soldiers and leaders who are capable of using all the resources at their disposal. They must be able to use the best and latest equipment available; employing all capabilities available in a Joint and combined environment.

## **PURPOSE OF THE 2007 ARMY MODERNIZATION PLAN**

This year's Army Modernization Plan recaps 2006 accomplishments prior to describing the way ahead for 2007 and beyond. Complementing this year's *Army Posture Statement*, and in concert with guidance from the *Army Campaign Plan*, the 2007 Army Modernization Plan describes continued efforts to transform and modernize the Force. Earlier versions of the Army Modernization Plan provided a "how-to" description of the Army's Force Development effort by describing new modernization and investment strategies to support Joint Vision 2020.

The 2007 Army Modernization Plan updates key audiences on transformation and modernization efforts by:

- Describing how the Future Modular Force will conduct full-spectrum operations in support of Joint force commanders, including what capabilities are required, and progress to date
- Describing key accomplishments and challenges to the Army's modernization and investment strategies
- Communicating modernization and equipping priorities required to prevail in the ongoing war on terror, sustain our global commitments, preserve the investment needed to achieve required Future Modular Force capabilities, and field an improved Future Force
- Providing information on selected programs critical to enhancing the current Army Modular Force, while simultaneously

achieving required Future Modular Force capabilities

Transformation and modernization must fill both current and Future Modular Force capability gaps through a fully coordinated, balanced, and synchronized approach to Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF). Annexes A through F separately discuss key issues in each of these essential areas.

## **TRANSFORMATION**

The Army is transforming to build a more capable and relevant force for the 21st Century, while fully engaged in the war on terror, and sustaining the range of our global commitments. Modular conversion is the main transformation effort. The Army's objective is a fully manned, trained, and equipped force comparably balanced between Active and Reserves. The equipment requirements construct used in equipping the Army Modular Force is based on three factors: (1) filling shortages in all modular units, (2) performing essential modernization to upgrade or replace non-deployable equipment, and (3) performing modernization of older equipment. Army Modular Force transformation affects the Total Army. As the Army creates modular capabilities, it is rebalancing and redistributing our forces to create the right mix of high-demand units and to assign Soldiers with critical and high-demand skills in both the Active and Reserve Components. We are redistributing Soldiers to create the right mix between the Operating Force and the Generating Force.

The Army is transforming to increase capability and generate greater flexibility to meet Joint force requirements across the range of military operations. Prior to modular conversion, Army combat power focused on robust divisions, each authorized approximately 15,000 Soldiers. Non-standard division-level organizations made task-organization difficult and degraded the readiness of non-deployed units that had been stripped of Soldiers and equipment. The available 33 Active

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maneuver brigades and 15 enhanced separate brigades in the Reserves were insufficient to meet Joint rotational requirements and still preserve the All-Volunteer Force. Joint force requirements today call for smaller units with more versatile capabilities, but with equipment and capabilities previously organic to corps and divisions.

The Army views transformation as the continuous evolution of capabilities over time from the current, operational Army, to the Future Force. The Future Force is a strategically responsive, campaign-quality Army, dominant across the range of military operations and fully integrated within the Joint, Interagency, Intergovernmental, and Multinational Security framework. Modular conversion is the main effort of transformation. To sustain increased demand for military forces, we are building modular forces based on the foundation of our Future Force, the Future Combat Systems (FCS) Brigade Combat Team (BCT), Heavy BCTs (HBCT), Infantry BCTs (IBCT), and Stryker BCTs (SBCT) will be FCS-enabled, allowing interoperability and integration of many FCS capabilities.

Our modular conversions across both the Active and Reserve Component provide better flexibility to address the global commitments and ongoing requirements of Joint force commanders.

## **TRANSFORMATION IN 2006**

FY06 witnessed the Army's highest density of modular transformation activities, notably completing the conversion of 13 Active Component BCTs (increasing the number to 31); initiating the conversion of an additional four; continuing the modernization of seven Army National Guard BCTs begun in FY05 and beginning conversion of nine more for a total of 16; and completing the conversion of 19 Multi-functional and Functional Support Brigades across the Total Force. The Army restationed the 2nd Cavalry Regiment (2nd Stryker Brigade) from Ft. Lewis, Wash., to Germany; restationed 3rd Brigade, 1st Infantry Division from Germany to CONUS; and continued execution of Active/Reserve rebalancing. The Army also

identified over 7,000 military positions for military to civilian conversion which, if funded by Congress, will enable these military authorizations to be moved from the Generating Force to the Operating Force.

## **TRANSFORMATION IN 2007 AND BEYOND**

The Active Component will have converted a total of 35 BCTs by the end of FY07, and an additional three will be in the conversion process. The Army National Guard will begin modular conversion of nine more BCTs for a total of 25 units converting. An additional 13 Multi-functional Support Brigades will be converted, increasing the total to 58 brigades across all components. Functional Support Brigades will have increased by another four in the Active Component and six in the Army National Guard for a total of 96 across the Force. In 2007 the Army will:

- Activate the seventh Stryker Brigade
- Stand up the Army Evaluation Task Force at Ft. Bliss, Texas
- Restation the 1st Brigade, 1st Armored Division; and III Corps Support Command from Germany to CONUS as part of Global Defense Posture Realignment
- Continue implementation of the Army Force Generation Process

The Army also expects to gain further efficiencies through conversion of military positions to civilian positions.

The 2006 Quadrennial Defense Review force planning construct called for the Army to build 70 BCTs and approximately 200 support brigades and enabling organizations. Due to increased demand, the Army now plans to increase end-strength to sustain current operations, prepare for future contingencies, and preserve the All-Volunteer Force. As a result, the Army, with these additional resources, will expand the rotational force pool to include 76 BCTs (48 AC BCTs and 28 ARNG BCTs)

and approximately 225 support brigades and enabling organizations.

The Army continues to analyze strategic requirements and adjust force structure as required to provide capability to Joint force commanders. Restructuring Active and Reserve forces will increase Combat Support and Combat Service Support capabilities to conduct stability operations and unconventional warfare. The Army is also accelerating modular conversion of two additional AC BCTs in 2007, and enabling every BCT available to deploy in support of the Joint force.

## ARMY FORCE GENERATION (ARFORGEN)

The *Army Campaign Plan* outlines the purpose of ARFORGEN; to provide combatant commanders and civil authorities with trained and ready units, task organized in modular expeditionary forces,

tailored to Joint mission requirements, with sustainable campaign capability to conduct and continue full-spectrum operations in persistent conflict. ARFORGEN is the structured progression of increased unit readiness over time, resulting in recurring periods of availability of trained, ready, and cohesive units prepared for operational deployment in support of combatant commander requirements. Operational requirements drive the ARFORGEN training and readiness process which, in turn, supports the prioritization and synchronization of institutional functions to resource, recruit, organize, man, equip, train, sustain, source, mobilize, and deploy cohesive units as shown as a process in Figure 1. The goal is to achieve a sustained, more predictable posture to generate trained and ready modular forces tailored to Joint rotational requirements more effectively and efficiently.

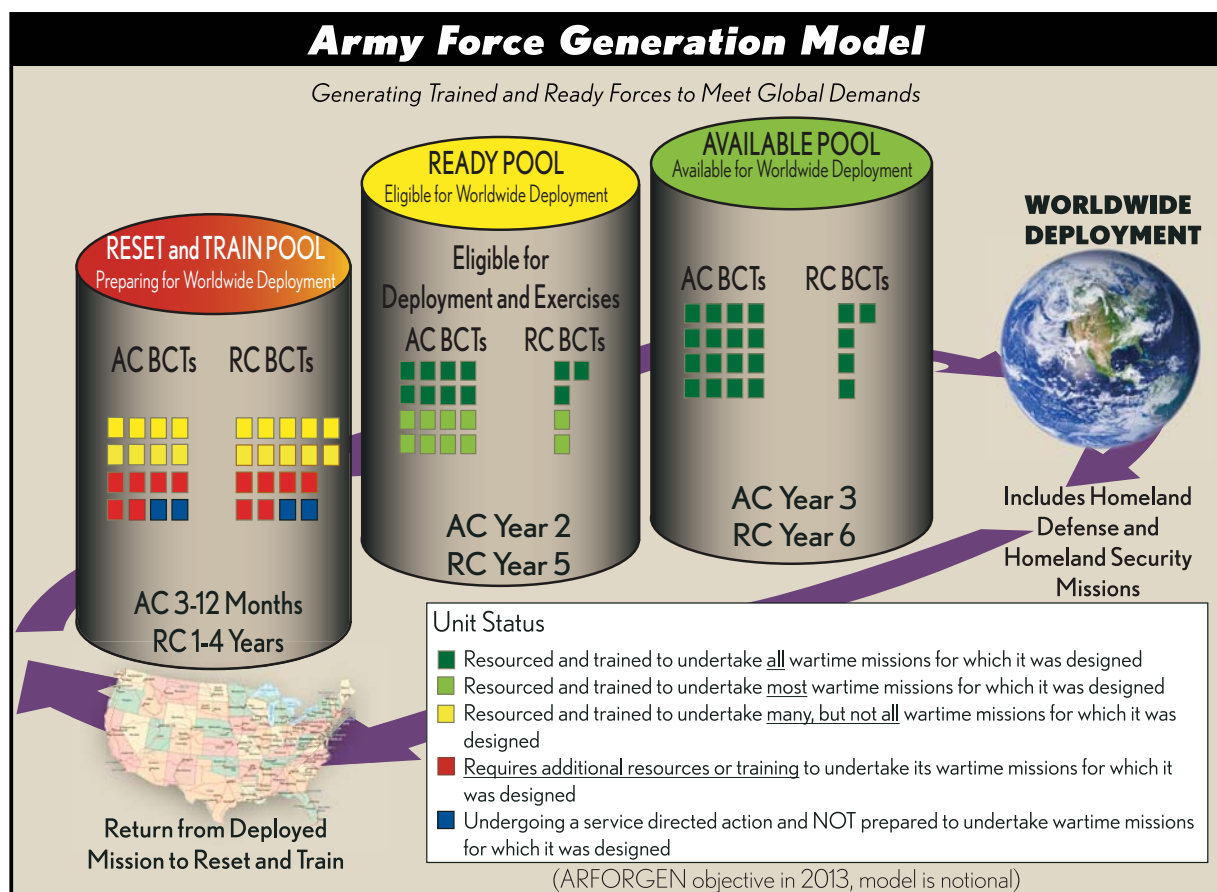


Figure - 1 ARFORGEN Process



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In the ARFORGEN planning process, the Army assesses demands and force availability across six-year planning horizons. This focuses units against future missions as early as possible and task-organizes modular expeditionary forces tailored to Joint mission requirements. The Army will refine modular expeditionary forces as operational requirements mature over time, resourcing Active and Reserve units to equivalent standards based on assigned mission and deployment sequence.

Units will flow smoothly through the Reset/Train, Ready, and Available Force pools to meet operational requirements with increased predictability. Those in the Reset/Train Force pool redeploy from operations, receive and stabilize personnel, reset equipment, and conduct training that culminates in a brigade-level collective training event. Units in Reset/Train are generally not ready to conduct major combat operations, but may be employed to civil authorities including Homeland Security, Humanitarian Assistance, Disaster Relief, and Consequence Management Operations.

Units in the Ready Force pool continue mission-specific collective training and are eligible if necessary to meet Joint requirements. Units in the Available force pool are in their planned deployment windows and are fully trained, equipped and resourced to meet operational requirements. When the full three-year (Active) and six-year (Reserve) deployment cycles are realized, ARFORGEN will enable a unit to focus on its core mission (offensive and defensive operations) in Reset/Train and focus on its directed mission (stability operations) in the Ready force pool. This way, ARFORGEN enables units to be fully trained to conduct full-spectrum operations.

In accordance with Total Force Policy, the Army needs recurrent, assured, predictable access to source, mobilize, and deploy cohesive Reserve units to conduct sustained combat and stability operations. Reserve units form the campaign-quality depth of the Army and provide essential capabilities.

ARFORGEN supports the transition of Reserve units from a strategic reserve to an operational force. A critical element of this transition is the shift away from managing Reserve Component operational tempo by individual, to managing OPTEMPO by units.

Resulting from the majority of Reserve units being fully or partially mobilized in support of GWOT, past mobilization policies and practices required the Army to rely on individual volunteers from the Reserve. Instead of augmenting Soldiers after mobilization to form new units, the Army sought to improve mission effectiveness, decrease risk of casualties, and lessen units' post-mobilization training time by deploying trained, ready and cohesive Reserve units. ARFORGEN is designed to support the Army's goal for Reserve Component Soldiers to join, train, deploy, and fight together.

Fully implementing the Army Modular Force and ARFORGEN yields additional advantages to support the Joint force in steady-state operations to include:

- A steady-state supply of up to 20-21 trained and ready modular BCTs with enablers
- The capability to surge an additional 20-21 BCTs with enablers from the Ready Force pool, given sufficient resources to man, train, and equip whole cohesive units
- Stabilized personnel who join, train, deploy, and fight together in the same unit
- A cyclic training process that supports the goal to be fully trained for full-spectrum operations in the steady-state three-year (Active) and six-year (Reserve) operational cycles
- More predictable unit deployments; this benefits the Army, Soldiers, families, and employers
- Recurrent, assured, predictable access to trained, ready and cohesive Reserve units
- Deployment planning goals to identify high-demand, low-density units

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- Reduced post-mobilization training time for Reserve units
  - Allocating resources based on unit mission priorities and deployment schedules
  - The opportunity to synchronize a broad range of Generating Force processes

Detailed ARFORGEN guidance, published in the *Army Campaign Plan* outlines the processes needed to maximize unit readiness and availability of forces, while ensuring greater stability and deployment predictability for Soldiers and their families.

## EQUIPPING THE FORCE

The Army prioritizes units for equipping based on assigned missions and their designation in the ARFORGEN rotational cycle. Driven by operational requirements, ARFORGEN facilitates Army prioritization and allocates the correct mix of equipment to provide a sustained supply of ready units to meet combatant commander's requirements. The process includes U.S. Northern Command's mission to support homeland security and homeland defense using the Army National Guard as first military responder. This was shown when the Army joined forces with Guard leadership, identified dual-use equipment in the "Essential Ten" capabilities to provide defense support to civil authorities. The Army fenced in excess of \$21 billion for ground systems procurement and \$1.9 billion in aviation equipment through FY11— a four-fold increase over the prior planning period. In collaboration with the Army National Guard, the Active Component also fielded more than 11,000 pieces of critical equipment to priority hurricane states.

Several factors challenge the Army's ability to equip units within the ARFORGEN process. High-demand, low-density items like up-armored tactical wheeled vehicles, Counter-Improvised Explosive Device, and route-clearing vehicles are not available in adequate numbers to equip all non-deployed units. The result is that units returning from war

require training sets that contain these types of items, which are shared by a number of CONUS units. These types of items are also included in Theater Provided Equipment to ensure every unit is fully equipped to conduct combat operations.

## LIFECYCLE MANAGEMENT

The Army is moving away from an individual replacement system to a system where most Soldier assignments are synchronized with a unit's reset process. Under Lifecycle Management, most Soldier transfers and reassignments occur shortly after a unit enters the Reset pool. Soldiers and leaders then remain with the unit as it progresses through the Ready and Available pools in the ARFORGEN process.

Lifecycle management increases stability and predictability for individual Soldiers and their families. By synchronizing Soldiers' assignments with their units' operational cycles, Lifecycle Management provides more capable and prepared formations. The Army began implementing Lifecycle Management within six BCTs in 2005, and is continuing to expand its implementation across the Total Force.

## REBALANCING THE FORCE

As modular capabilities are created, the Army is restructuring for a more effective mix of Active Component and Reserve Component forces to improve the Army's flexibility to provide tailored forces to meet Joint force requirements on a "plug and play" basis without continuing to undergo extensive task organization and augmentation that resulted in decreased readiness. Efforts to improve readiness and availability, while making the best possible use of resources, includes both rebalancing and redistributing to create the right mix of high-demand units and to assign the Soldiers with critical and high-demand skills in both the Active and Reserve Component. This rebalancing effort will also ensure the Army has sufficient depth across the Active and Reserve Component to support sustained operations while providing predictability for Soldiers and families. The Army currently has

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identified 116,000 positions to rebalance before 2013. In FY06 the Army completed rebalance actions for over 55,000 positions – restructuring and reducing over structure to improve unit readiness and deployability.

## **ARMY GLOBAL FORCE POSTURE**

The Global Force Posture supports U.S. security interests by facilitating cooperative security agreements and, when needed, enabling rapid global military actions to support the expeditionary forces. In 2006, the Army developed a strategy that integrates Base Realignment and Closure, Global Defense Posture Realignment, and the actions to build a modular Army. The goal is to accelerate Army strategic responsiveness by divesting Cold War-era infrastructure, reducing the overseas footprint, and reinvesting in the infrastructure required for the foreseeable future. The Army is stationing forces in CONUS based on training resources and power projection requirements, while enhancing key enabling and deployed logistics capabilities to quickly respond to contingencies world-wide.

Global posture actions are balanced and continuously adjusted against requirements to support the Joint warfighter. In conjunction with the other Services, the Army is transforming its OCONUS posture into a network of three types of locations:

- Main Operating Bases, which will be enduring, large sites with permanently stationed Soldiers and their families
- Forward Operating Sites, which will be smaller but expandable sites that can support rotational forces
- Cooperative Security Locations, which will be small rapidly expandable sites with little or no permanent U.S. presence

In the European and the Pacific theaters, the Army will maintain the smaller forward-presence forces, while stationing more agile and expeditionary forces to respond to contingencies. In the Middle East and elsewhere, the Army will maintain

rotational presence while eliminating many of our permanent bases. These actions will improve our ability to rapidly deploy to austere environments, fight upon arrival, and sustain operations. Other initiatives to improve responsiveness are:

- Resetting pre-positioned equipment sets into modular configurations
- Leveraging information technology and supply chain management, and building modular capabilities to improve theater for reception and deployed logistics, especially in austere areas
- Identifying and improving infrastructure at critical power projection platforms to increase support for rapid deployment of Active Component units, and to increase support for rapid mobilization, deployment, and demobilization of Reserve Component units

## **MODERNIZATION**

Modernization and transformation are two parts of an inseparable whole. Modular conversion is the organizational transformation of the Army. FCS is the cornerstone of the materiel modernization of the Army, as the Army is modernizing to develop FCS, new aviation systems, and over 300 advanced technologies and systems. FCS is the centerpiece of our modernization strategy, critical to the Army's relevance in the 21st Century, and fast becoming a reality. Operations in Afghanistan and Iraq illustrate that technological and training superiority are critical elements of battlefield success and must be sustained. For the benefit of the current force, the Army will field mature FCS technologies into the force beginning in 2008. For the benefit of the Future Force, the Army will field FCS BCTs beginning in 2015, to achieve optimum balance of deployability, mobility, lethality, and survivability to conduct successful early-entry, full-spectrum operations.

The Army is focusing development efforts on identifying promising FCS technologies and fielding these enhanced capabilities to enable



Soldiers to retain technological overmatch. Given today's wartime imperative, the Army cannot wait for transformational change and modernization over multiple decades. The Army has a balanced approach to transformation that ensures Soldiers and combatant commanders receive the best possible support and capabilities as soon as possible, now and in the future. Modular transformation allows for the more rapid integration of materiel modernization with FCS.

## FUTURE COMBAT SYSTEMS

The Future Force will have a balanced mix of light, medium, and heavy formations that will be optimized for strategic versatility. The foundation of this Future Force is the FCS Brigade Combat Team. Heavy BCTs, Infantry BCTs, and Stryker BCTs will be FCS-enabled, allowing interoperability and many FCS capabilities.

The FCS-enabled BCT is a combined-arms unit of modular organizational design. As part of this design, the FCS-enabled BCT is built as an integrated, networked System-of-Systems whose cornerstone is the Soldier. The FCS-enabled BCT is designed to be self-sufficient for 72 hours of high-intensity combat operations, or up to seven days in a low- to mid-intensity environment. The net effect of all these design considerations is a BCT with exceptional versatility and operational capability and fewer people than the current configuration.

The FCS BCT uses advanced network architecture to enable levels of Joint connectivity, situational awareness, and synchronized operations capabilities previously unachievable. It is designed to interact with and enhance the Army's most valuable asset—the Soldier. When fully operational, FCS will provide the Army and Joint force with

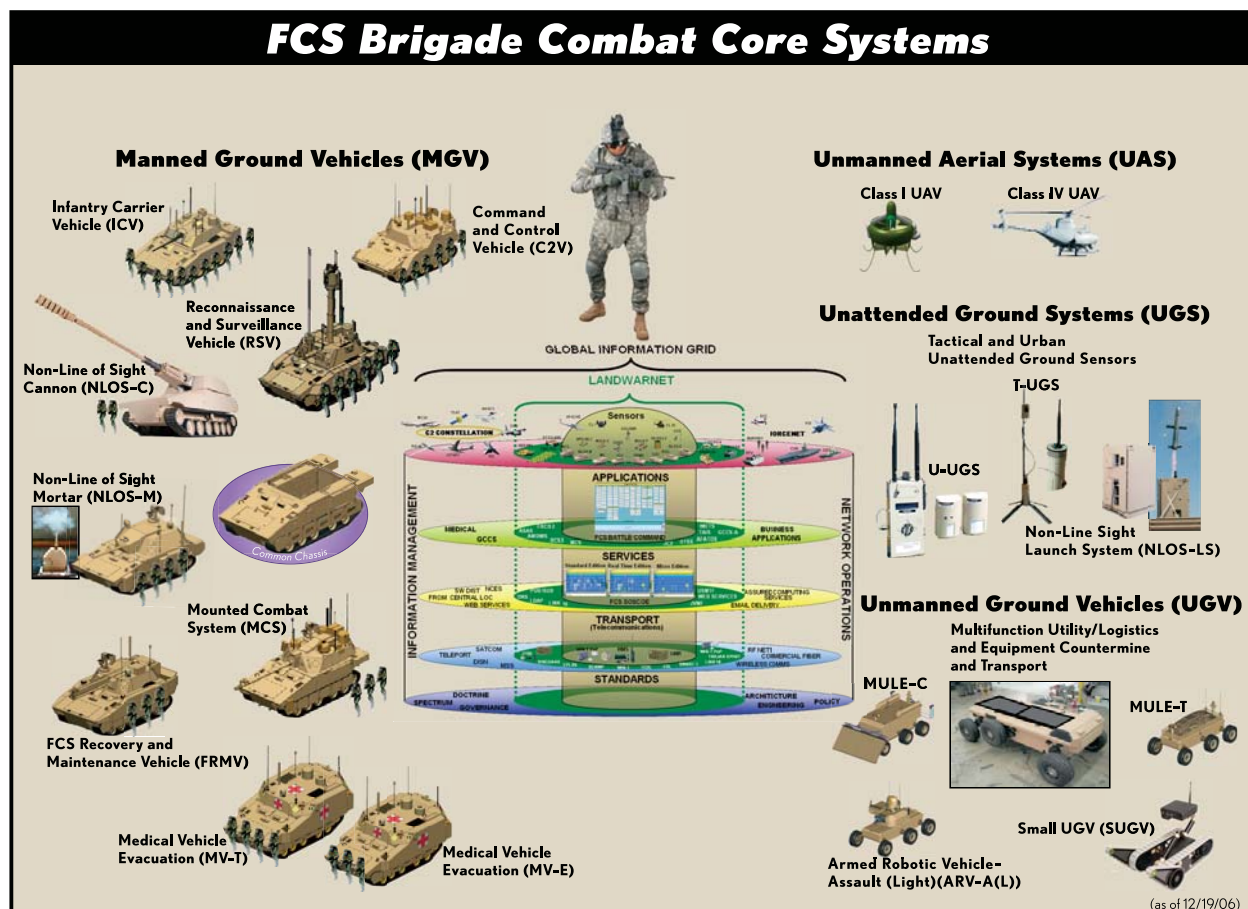


Figure – 2. Future Combat System (FCS) Brigade Combat Team



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unprecedented visibility and capability to see, engage on our terms and defeat the enemy.

The FCS-enabled BCT is 60 percent more strategically deployable than today's heavy forces, and is specifically designed to deploy from operational and strategic distances via ground, sea, and air assets not dependent on improved ports or airfields. This is especially significant in humanitarian relief operations, where the capability to arrive quickly can mean the difference between success and failure.

FCS capabilities allow Soldiers significant tactical and operational advantages by providing constant awareness of friendly and enemy situations, reducing casualties by expanding the ability to operate across larger areas with fewer Soldiers, and enhancing the ability to defeat IEDs, anti-tank weapons, and small arms.

## **FCS AND BALANCING CURRENT AND FUTURE REQUIREMENTS**

As a result of the effects of budget reductions over the past three years, and fiscal guidance for future years we will reduce the scope and delay the schedule of fielding FCS. We will continue to develop the core operational capability envisioned for FCS, yet will do so with 14 instead of 18 interconnected systems. These projected reductions will put at risk our ability to reach the full tactical and operational potential envisioned for FCS. It will also delay our target date to field the first of 15 projected FCS-equipped Brigade Combat Teams by five months to 2015, and slow the rate of procurement to one per year. The FCS will, however, generate technologies to protect Soldiers, enhance battlefield understanding, and provide other tactical advantages for our Soldiers fighting today. In 2008, the FCS will begin to field key technologies to deploying forces—a process projected to continue in roughly two-year intervals. The combined effect of budget reductions and reduced fiscal guidance will delay development, acquisition, and delivery of this much needed capability to the Soldiers and the Nation.

## **FCS SPIN-OUTS**

FCS will use evolutionary acquisition to develop, field, and upgrade FCS BCT throughout its lifecycle. On 22 July 2004, the Army announced plans to accelerate the delivery of selected FCS to the current force. The acceleration of fielding will be accomplished using the fielding of selected FCS BCT operational capabilities within a structured release called "spin-outs." The determination of spin-out operational capabilities will be based on Army plans to improve current force capabilities, technical achievability, and engineering efforts required to meet the dates of spin-out system deliveries, and technical maturity of complementary programs necessary for the effective employment of the FCS capabilities provided by the spin out. By spinning-out FCS and advanced technologies into formations as soon as they are ready, current forces will be better able to stay ahead of an adaptive enemy while reducing operational risk.

Through spin outs, FCS is working to improve both current and future combat capabilities. Just as the emerging FCS BCT capabilities enhance the current force, the current force's operational experience informs the FCS BCT program, further mitigating future challenges, force management, and institutional risks. The current spin out cycle is depicted in Figure 3.

The first spin out, due 2008, will introduce Unattended Ground Sensors, Non-Line-of-Sight Launch Systems, and the Network. These capabilities will enhance Soldiers' understanding of their situation in dynamic, battlefield conditions by promoting a common perspective of enemy and friendly locations on digital maps. This improvement will greatly increase Soldiers' area of influence and control. The Network, building on Army Battle Command Systems currently being fielded to Brigade Combat Teams, will also provide Soldiers with timelier Actionable Intelligence.

The second and third spin outs, on track for 2010 and 2012 respectively, will introduce new unmanned air and ground systems to better support our Soldiers

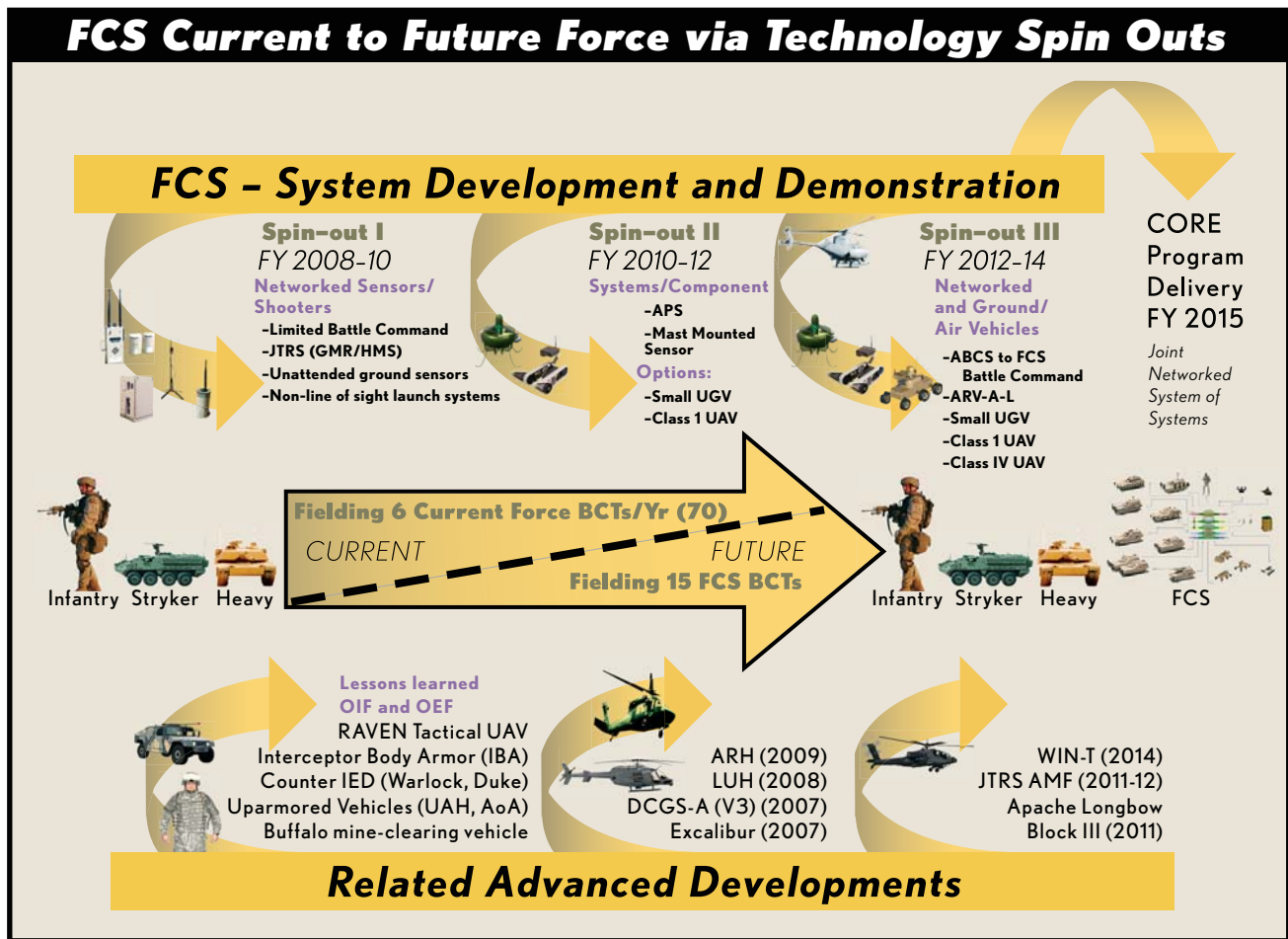


Figure – 3. Current Spin-Out Cycle

by employing greater numbers of sensors to see and find their enemies first. These spin outs will also enable robotic reconnaissance of dangerous areas, mines, and booby traps. Together, they will increase Soldier protection, effectiveness, and enhance the precision of their weapons.

The 2012 spin out includes technologies required to complete Network fielding at the FCS level. This improvement will reinforce the comprehensive efforts underway now to improve accuracy and responsiveness of the Joint weapons systems designed to support Soldiers, while providing unparalleled connectivity and situational awareness.

## ARMY EVALUATION TASK FORCE

The Army established Army Evaluation Task Force—known previously as the Evaluation Brigade

Combat Team—at Fort Bliss, Texas, in December 2006, to support test and evaluation of FCS program systems. In 2007, AETF will continue to receive Soldiers and equipment and train as a brigade task force and also undergo New Equipment Training on FCS spin-out systems in preparation for tests. Under TRADOC, this organization will be manned and equipped according to an Exception-Modified Table of Organization and Equipment to meet test requirements.

The AETF will support evaluation and testing of the FCS BCT organization designs, operational concepts, war-fighting capabilities, training, and equipment to produce enhancements in lethality, survivability, tempo, sustainability, deployability, and Joint force linkages. It will also assist in assessing performance of FCS spin outs and core program systems.

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The AETF testing and evaluation work will encompass both FCS spin-out capabilities for the near-term current force, as well as longer-term incorporation of major systems from the main FCS program. It will synchronize new systems and the simultaneous changes in doctrine, organizational structure, training, leadership responsibilities, logistics, and personnel requirements needed to optimize these additional capabilities. It will also speed FCS development and put users into the design cycle to help maintain an aggressive schedule.

## **STRYKER BRIGADE COMBAT TEAM**

SBCT is a unit whose design provides the Army with dominant maneuver and precision engagement capabilities not found in any other brigade-sized Army unit. Specifically, the Reconnaissance, Surveillance, and Target Acquisition squadron, with Unmanned Aircraft Systems and ground-based human intelligence specialists provides commanders with unequalled situational awareness. The networked command and control architecture that features Force XXI Battle Command, Brigade and Below lets the commander provide that same picture to lower echelons and major combat platforms, such as the Stryker vehicles, thereby establishing a real-time friendly force operational picture for the unit. Stryker Brigade Combat Team also features organic, ground-based sniper teams—the essence of precision strike and a critical combat requirement validated during this current fight.

Stryker's force application capability is global, C-130 transportable, and the unit can deploy rapidly to austere environments. Stryker units can fight effectively in major engagement and battles with augmentation (such as attack aviation and/or rocket artillery) while it excels in the midpoint of the operational spectrum. The SBCT can also execute difficult security missions such as guard, cover, screen, and counter-reconnaissance. The Stryker vehicle's superior off-road maneuverability, combined with dismounted infantry assault capability featuring robust anti-tank weaponry, ensures SBCT can effectively engage and destroy enemy armor in close or complex environments.

The Army has already benefited with the deployment of SBCTs to Iraq—maximizing the capabilities of this transformation organization during combat operations. Examples are increased speed and survivability, excellent vehicle reliability, nearly seamless situational awareness down to crew level, and high Soldier confidence in the Stryker vehicle.

## **RESOURCING CONSIDERATIONS**

Historically the Army has been under-resourced. During the decade preceding the September 11th attacks, Army investment accounts were underfunded by approximately \$100 billion, and total end strength was reduced by nearly 500,000. The Army began fighting the GWOT with \$56.2 billion in equipment shortages—the result of operational risk accepted over more than three decades under the tiered readiness concept. (The concept of tiered readiness, in which “late deploying” units lacked required personnel and equipment for combat operations, was based on the assumption there would be time and funds to resource them before they deployed.)

For Operation Enduring Freedom and Operation Iraqi Freedom, the Army is cross-leveling people and equipment from CONUS units to fill shortages in deployed or deploying units. This practice degrades unit training at home station, increases risk in new contingencies, reduces the capability of Active and Reserve forces to provide defense support to civil authorities, and is not sustainable as the OPTEMPO increases. The Army is using resources in its base programs to fill these equipment shortages to form whole, cohesive units that are ready to fight and provide civil support when required.

In 2004, the Army required an additional \$52.5 billion to implement the Army Force Initiative. An initial requirement of \$28 billion addressed only the BCTs, the remainder being required to transform the rest of the Army Modular Force. Based on OIF/OEF lessons learned, Army commanders identified an additional \$17 billion in operational equipment necessary to increase force protection

and warfighting capabilities. Examples include up-armored wheeled vehicles; improved body armor; improved Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance; and increased common equipment for Special Operations Forces. Requirements to reset unit equipment reflect costs to repair, replace, and recapitalize equipment worn, damaged, or destroyed in war over and above the normal costs to sustain the Army. As our operational tempo and deployed force levels remain high, the requirements for reset will increase.

Reset funding was designed to arrest a downward spiral in readiness. Since we will now consume these resources faster than projected, our requirements in this area will increase if we are to continue building strategic depth. As we have testified consistently, reset costs are currently addressed by supplemental funding at an expected rate of \$13.5 billion a year. This number is dependent on operational tempo and deployed force levels. Resetting the force will require predictable funding for several years beyond major deployments to ensure readiness in the long term.

The Army has demonstrated flexibility and commitment in resourcing modular conversion and FCS in its base budget while preserving the warfighting capability of the current force. For example, the Army had to make a budget-driven adjustment to the FCS program in the FY 08-13 Program Objective Memorandum. The Army will preserve the FCS operational concept but adjust the program from \$31.9 billion, to \$28.6 billion—a \$3.3 billion savings. Modular conversion and FCS combined average less than 10 percent of Total Obligation Authority over the next ten years. FCS is the Army's only major modernization program. Over 100 systems have been terminated over the past decade to provide resources for modernization. FCS is critical to the Future Force strategy for all aspects of its continued relevance in the 21st Century.

From FY08 and beyond, the Army must be fully resourced to grow while it modernizes and transforms to meet the challenges of the future. The need for continued Congressional support is vital, and the Army needs the provision of predictable, sufficient, and timely funding in

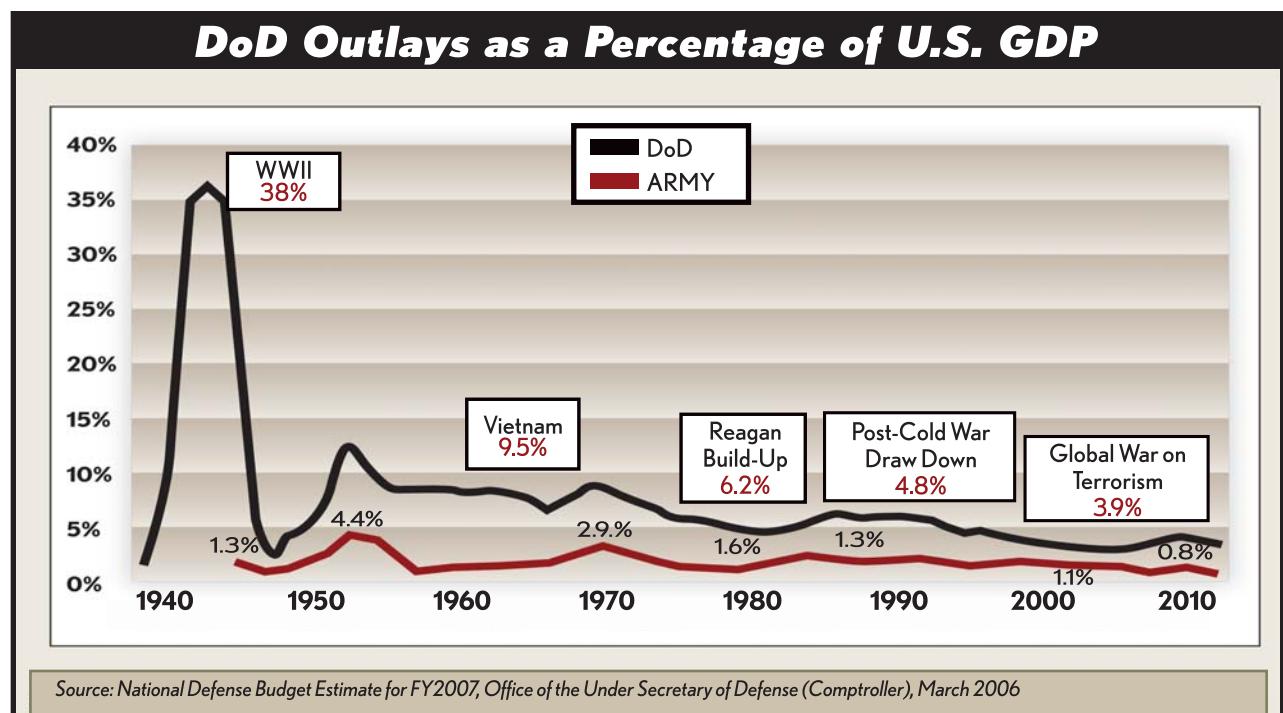


Figure – 4 DoD Outlays/Percentage of GDP



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addition to the continued support of American industry. Predictable budgets, enacted early with distribution of both main and supplemental funding within 30 days of the start of the fiscal year, will generate efficiencies when working with industry, provide stability to the workforce, and save procurement dollars. Sufficient budgets provide the needed financial resources to meet the missions the Army is being asked to do, as well as the resources needed to restructure, reposition, and equip the force for future missions. Stable budgets help manage resources within a predictable band as envisioned through planning and programming processes, as well as provide needed flexibility to respond to evolving operational needs.

The Nation can afford to resource the Army to sustain the long war, transform the Army to improve Soldiers' capabilities to defend the Nation, and modernize the Army to break our historic cycle of national lack of preparedness. Defense resources have not kept pace with the growth of the Gross Domestic Product. During World War II, defense spending was 38 percent of GDP. Although the GDP has increased over 300 percent from 1968 to 2005, defense spending increased just 62 percent. For 2007, the Office of the Secretary of Defense projects that defense spending will be 3.9 percent of GDP, continuing this downward trend. (See Figure 4.)

## **OTHER EQUIPPING INITIATIVES**

### **RESET**

Reset restores the readiness of equipment that has been destroyed, damaged, stressed, or worn out due to combat operations and establishes the conditions for rapid, decisive, reactive capabilities for unexpected worldwide contingencies. The requirement to reset equipment and return all Army units to full readiness upon return from operational employment is fundamental to the Army's ability to meet future threats. Reset ensures forward commanders have reliable and ready equipment and pre-positioned stocks, and the Army has a long-term program to resolve operational readiness concerns of critical systems. The onset

of OIF/OEF has forced the Army to adapt more formal integration of the reset process—namely - repair, replace, and recapitalize.

**Repair** is the rebuilding of equipment to meet the Army's Technical Manual 10/20 maintenance standards, and other special technical inspection and repair standards developed to address unique environmental issues. Aircraft reset includes a special technical inspection and repair. Equipment repair is classified into the field and sustainment (depot) levels. Timely funding allows depots to order parts in advance of equipment arrival, expediting the reset process. Since the beginnings of OIF and OEF, the Army's depots have steadily increased their capability while simultaneously increasing efficiency. At Texas's Red River Army Depot, work has increased from 400 to 700 items a month. At Anniston Army Depot in Alabama, work has increased from 1,000 to more than 3,000 per month.

**Replacement** is the procurement of new equipment to replace battle losses, washouts, and critical equipment deployed and left in theater, but needed for Homeland Defense, Homeland Security, and other critical missions. Equipment that is either lost due to combat action, or because it is either beyond or too expensive to repair, is replaced from the industrial base. As the Army replaces battle losses, it buys modern equipment compatible with the Army Modular Force. This includes replacement of equipment owned by the reserve component that was left in theater.

**Recapitalization** is the Army's long-term investment strategy to sustain Army readiness by rebuilding and/or repairing combat-damaged equipment, or returning equipment to a "zero mile/zero hour" level with original performance specifications. "RECAP" is the depot-level maintenance activity that extends the useful life of systems by completely rebuilding and introducing selected upgrades to the fleet. The Army's plan to recapitalize major combat systems is part of its reset strategy. Part of that plan includes reset of equipment forward to

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ensure required capabilities are available for the next fight. Major systems being recapitalized as part of our reset effort include the Abrams Tank, Bradley Fighting Vehicle, HMMWV, Patriot Air Defense System, and Apache Attack Helicopter.

Since engaged in GWOT, the Army has reset and returned over 1,900 aircraft, 14,000 tracked vehicles, almost 111,000 wheeled vehicles, as well as thousands of other items to operational units. At the end of FY06, the Army placed approximately 290,000 major items of equipment into reset. Over 280,000 major items will remain in theater and will not redeploy to be reset until a drawdown is implemented.

The Army RESET effort in FY07 consists of \$17.1 billion and is designed to reduce the effects of wear and tear on deployed equipment returning from theater, replace losses, and prepare units for future deployments. As part of this effort the Army will procure over 50,000 pieces of equipment, to include 55 helicopters, 431 Abrams Tanks, 501 Bradleys, and over 28,000 wheeled vehicles, as well as repair 20 crash-damage helicopters, 154 Abrams, 364 Bradleys, 3,000 wheeled vehicles, and over 39,000 small arms in depots. The Army also is repairing at the field level over 530 aircraft in the Special Technical Inspection and Repair program and will it reset 16 BCTs, four aviation brigades, one fire brigade, and eight support brigades.

## **ARMY EQUIPPING AND REUSE CONFERENCES**

AERCs are periodic forums by which equippers, planners, and force developers from Army Commands, Army Service Component Commands, and from throughout the Active and Reserve Components convene to discuss and deconflict modular conversion plans, ARFORGEN prioritization, funding, production deliveries, reset, Theater Provided Equipment, and other factors essential to synchronize and deliver equipment to units and define mitigation strategies for addressing shortfalls.

There is a strong commitment to resource the National Guard, given its roles both as Operating Force and first military responder for homeland defense and civil support. The Army Reserve remains the Nation's first Title 10 responder in natural or manmade disasters, accidents, or catastrophes in the U.S. and its territories. The AERCs ensure there is cross-leveling of equipment between units deploying and those returning to home station, as well as those units who must attend to domestic missions. Close collaboration among all commands, the National Guard, and the Army Reserve through AERCs ensures each unit entering theater has the best equipment available and that those who respond to homeland defense and security missions have the equipment necessary to complete their missions.

## **REUSE**

Reuse is another process the Army has instituted to use all available equipment in the inventory, whether new or used, to fill formations of the Total Force. As a result of AERC 6.0 in January 2007, the Army was able to distribute \$38.8 billion of equipment to all components over FY07, FY08, and first quarter FY09; compared to \$22 billion from AERC 5.0 in May 2006. These figures include \$10.6 billion of equipment for the Army National Guard and \$2.5 billion of equipment for the Army Reserve.

## **EQUIPFOR**

A major player in AERC, EQUIPFOR is the Army's equipment database of record that helps develop equipment distribution plans to support Army transformation and modernization. EQUIPFOR uses data from Logistics Integrated Databases to provide on-hand quantities to a Unit Identification Code (UIC)-level of detail. The Army Flow Model provides data to EQUIPFOR to determine shortages throughout the Army. EQUIPFOR then uses the Dynamic Army Resourcing Priority List to distribute equipment in accordance with HQDA G-3 priorities.

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## **RAPID EQUIPPING FORCE/RAPID FIELDING INITIATIVE**

Rapid Equipping Force and Rapid Fielding Initiative are two Army programs that bring technologically advanced force protection equipment to deployed and deploying units in much less time than legacy fielding systems.

The Rapid Equipping Force is a Staff Support Agency assigned to Asymmetric Warfare Group which reports directly to G-3. REF's mission is to assess Army business practices, desired capabilities, and acquisition techniques to effect institutional Army change, insert Future Force technologies, and equip operational commanders with Commercial Off-the-Shelf and Government Off-the-Shelf solutions to increase effectiveness and reduce risk.

The REF works one-on-one with deployed units and those ready to deploy to find solutions to immediate equipping needs. It accomplishes this by partnering with U.S. Army Material Command, industry, academia, senior Army leaders, the U.S. Army Training and Doctrine Command, the Army acquisition community, and the U.S. Army Test and Evaluation Command. A primary REF task is to focus on counter-Improved Explosive Device solutions and to directly support the Joint IED Defeat Organization and Asymmetric Warfare Group. In its general support role, Rapid Equipping Force forward-teams quickly identify and evaluate deployed force needs and desired capabilities. To date, Rapid Equipping Force has introduced more than 200 different types of equipment, providing more than 47,400 items to units supporting OIF/OEF, as well as units deployed to remote locations.

The RFI leverages current programs and Commercial Off-the-Shelf technology to give the Soldier increased survivability, lethality, and mobility. The RFI list comprises equipment every Soldier receives (items such as helmet, clothing items, and boots), and additional unit equipment fielded only to Brigade Combat Teams. RFI enhances capabilities of our fighting force in a

systematic and integrated manner commensurate with the Soldier-as-a-System philosophy. TRADOC updates RFI to keep the list relevant to the war and its lessons learned. By FY07 end, the Army will complete initial fielding of 984,000 total sets of equipment.

## **SCIENCE AND TECHNOLOGY**

The Army's strategy is to develop adaptable and responsive technology options that enable the Army Modular Force while seeking opportunities to enhance the current force. This strategy is achieved by simultaneously investing in three components:

- (1) Research to create new understanding for paradigm-shifting capabilities in the far-term;
- (2) Translation of research into militarily useful technology applications in the mid-term; and
- (3) Demonstration of maturing technology in relevant operational environments and facilitate transfer of that technology during the near-term. Technology demonstrations prove the concept, define the combat developments process, and provide the acquisition workforce with evidence of technology's readiness to satisfy system requirements.

## **TECHNOLOGY FOR THE CURRENT FORCE—SUPPORTING GWOT**

The Science and Technology community pursues technologies to maintain and enhance the Army's already advanced capabilities. Technologies must be demonstrated as having achieved sufficient maturity for transition and integration into acquisition programs within their schedules. The stated goal of the technology developer is to mature a technology for transition from to an acquisition program. More than 60 percent of the advanced technology development funding is contracted to industry partners by the community. This approach gives the opportunity to transition technology to the acquisition community much more quickly.

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Particularly important during GWOT is the S&T community's ability to rapidly provide limited or interim capabilities to warfighters responding to highly adaptive threats. In these instances, maturing technology is rapidly exploited to modify currently fielded systems. Deployed forces communicate urgent needs through formal and informal processes. Assessing potential solutions to these urgent needs requires close coordination between technology developers, the acquisition community, and forces in the field. In most cases, these accelerations of technology do not include full life-cycle support. Therefore, end-users must weigh the advantages and disadvantages of accepting new technology through accelerated fielding.

## **INVESTMENT IN FUTURE FORCE TECHNOLOGY AREAS**

The Army's investment strategy pursues technologies to achieve the goal to field forces that are "lighter yet more lethal, more sustainable and more agile" while achieving entirely new capabilities such as the ability to "locate, tag, and track terrorists." The program pursues technologies that will enable a fully capable FCS, while spinning out technologies for the current force as they become available. In the near-term, our single largest S&T investment is maturing technologies, which enable fielding of initial FCS and follow-on technology spinouts. These technologies include advanced lightweight armors, active protection for kinetic energy threats, the 120mm line-of-sight/beyond-line-of-sight ammunition suite, and the next generation of technologies for launch systems precision attack missile and the organic air vehicle within the unmanned systems technologies. Although FCS technology developments are the highest priority focus in the S&T portfolio, the majority of the investment is allocated across 13 Future Force technology areas.

## **OTHER INITIATIVES**

The Army's portfolio invests in a range of technologies to provide solutions across a spectrum

of desired capabilities beyond those already discussed for the FCS-equipped and Soldier systems. These other initiatives pursue technology solutions to satisfy capability gaps across the entire force. Some of these other initiatives are in areas of enduring and cross-cutting capability needs as listed below:

- Flexible display screens to provide the Soldier with lightweight, compact displays that can be worn rolled up and stored and conform to structures
- Lightweight, multi-mission equipment packages for unmanned systems
- Immersive simulations and virtual environment technologies for Soldier, leader, and unit mission rehearsal and training
- Embedded prognostics and diagnostics to achieve capabilities for prediction-based/anticipatory logistics that will preempt a variety of logistical requirements and reduce the logistics footprint in theater
- New materials and coatings for enhanced reliability and maintainability of various component parts and systems
- Area protection from rockets, artillery, and mortars
- Countermine technology for high OPTEMPO combat and survivability in stability operations
- Alternative and variable lethality mechanisms, including high-power microwave, high-power lasers, and electromagnetic guns
- Biotechnology to obtain unprecedented performance and materials
- Medical technology for self-diagnosing and treatment
- Genomic, DNA-based vaccines to sustain Soldier and unit combat effectiveness



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## MODELING AND SIMULATION

The Army has invested significant funds on the development and employment of models and simulations over the past decades. This investment has resulted in significant savings in the cost of training, acquisition, testing & evaluation, and analysis. Modeling and simulation tools and resources enable Army modernization and support the warfighter by facilitating:

- Early assessment of current and future force capabilities
- Analysis of warfighting requirements
- Risk reduction in the acquisition processes
- Training support and embedded training capabilities that are integral to weapon system platforms
- Net-centric battle command capabilities
- System tests and evaluation
- Cost-effective experimentation to gain insights into system capabilities